



[7590-01-P]

## NUCLEAR REGULATORY COMMISSION

[NRC-2019-0037]

### Human-System Interface Design Review Guidelines

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Draft NUREG; request for comment.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment a draft NUREG entitled, “Human-System Interface Design Review Guidelines” (NUREG-0700, Revision 3). NUREG-0700 was first published in 1981 following the accident at the Three Mile Island Nuclear Power Plant. The NUREG provided the guidance to operating reactor licensees and applicants for operating licenses for conducting detailed control room design reviews and identifying and correcting design deficiencies in order to bring control rooms into compliance with human factors engineering principles. Since that time, the NRC staff has updated NUREG-0700 in 1996 and again in 2002. The current updated (Revision 3) is the first in over a decade and represents a major revision to the guidance document.

**DATES:** Submit comments by [INSERT DATE **45 DAYS** FROM DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received before this date.

**ADDRESSES:** You may submit comments by any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2019-0037**. Address questions about Docket IDs in Regulations.gov to Krupskaya Castellon; telephone: 301-287-9221; e-mail:

Krupskaya.Castellon@nrc.gov. For technical questions, contact the individual(s) listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **Mail comments to:** Office of Administration, Mail Stop: TWFN-7-A60M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Program Management, Announcements and Editing Staff.

For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the SUPPLEMENTARY INFORMATION section of this document.

**FOR FURTHER INFORMATION CONTACT:** Stephen A. Fleger, Office of Nuclear Regulatory Research, telephone: 301-415-2409, e-mail: Stephen.Fleger@nrc.gov; or DaBin Ki, Office of Nuclear Regulatory Research, telephone: 301-415-2358, e-mail: DaBin.Ki@nrc.gov. Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

**SUPPLEMENTARY INFORMATION:**

**I. Obtaining Information and Submitting Comments**

**A. Obtaining Information**

Please refer to Docket ID **NRC-2019-0037** when contacting the NRC about the availability of information for this action. You may obtain publicly-available information related to this action by any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2019-0037**.

- **NRC’s Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select “[Begin Web-based ADAMS Search](#).” For problems with ADAMS, please

contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The draft NUREG on "Human-System Interface Design Review Guidelines" is available in ADAMS under Accession No. ML18158A333.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

## B. Submitting Comments

Please include Docket ID **NRC-2019-0037** in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <http://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

## I. Discussion

The NRC staff reviews the human factors engineering (HFE) aspects of nuclear power plants in accordance with the Standard Review Plan (NUREG-0800, Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition.) The Human Factors Engineering Program Review Model (NUREG-0711, Revision 3, issued November 2012) contains detailed design review procedures. As

part of the review process, the interfaces between plant personnel and the plant's systems and components are evaluated for conformance with HFE guidelines. This document, Human-System Interface Design Review Guidelines (NUREG-0700, Revision 3), provides the guidelines to perform this evaluation. The review guidelines address the physical and functional characteristics of human-system interfaces (HSIs). Because these guidelines only address the HFE aspects of design and not other related considerations, such as instrumentation and control and structural design, they are referred to as HFE guidelines. In addition to the review of actual HSIs, the NRC staff can use the NUREG-0700 guidelines to evaluate a design-specific HFE guidelines document or style guide. The HFE guidelines are organized into four basic parts, which are further divided into sections. Part I contains guidelines for the basic HSI elements: information displays, user-interface interactions and management, and analog displays and controls. These elements are used as building blocks to develop HSI systems to serve specific functions. Part II contains the guidelines for reviewing the following HSI systems: alarm system, safety parameter display system, group-view display system, soft control system, computer-based procedure system, automation system, and communication system. Part III provides guidelines for the review of workstations and workplaces. Part IV provides guidelines for the review of HSI support (i.e., maintainability of digital systems and degraded HSI and instrumentation and control conditions).

Dated at Rockville, Maryland, this 8<sup>th</sup> day of February 2019.

For the Nuclear Regulatory Commission.

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